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AUTHOR Weaver, Constance
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ABSTRACT

The prevailing concept of Attention-Deficit Hyperactivity Disorder (ADHD) is a medical one: those exhibiting significant problems in maintaining attention and restraining impulses are said to have a "disorder," which implies some sort of malfunction within the individual. What is needed is a "both/and" perspective: a perspective that simultaneously acknowledges the validity of the social criticisms of the origin and consequences of ADHD, and at the same time acknowledges and attempts to alleviate the very real difficulties of children. A general systems view of ADHD sees causes as multi-dimensional and multi-directional--a view compatible with and contributing to a whole language philosophy. The forthcoming "Diagnostic and Statistical Manual" (version IV) will list the defining characteristics of ADHD under two relatively separate behavioral dimensions: inattention-disorganization, and impulsivity-hyperactivity. It is not easy even for trained clinicians to distinguish ADHD from other problems. Research indicates that medication complemented by cognitive or behavioral therapy is more effective than any of the treatments alone. There are numerous strategies effective in educating ADHD children that reflect a systems perspective by adjusting the environment and environmental demands to meet the needs of students. Because whole language theory reflects a "both/and" stance toward responsibility for learning and a conviction that teachers need to work with children to help them control their behavior, whole language teachers may be particularly effective with ADHD students. (Four figures are included; 55 references and a list of 14 items for further reading are attached.) (RS)

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Concept Paper No. 3

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Constance Weaver
Western Michigan University

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For my son John,

who has generously allowed me to share
the story of his life

in the hope
of helping others.

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Alternatives in Understanding and Educating Attention Deficit Students: Toward a Systems-theory, Whole Language Perspective

Constance Weaver

Western Michigan University

I'd like to begin by describing the hyperactivity of 6-year-old Donald, who was brought to an Attention Deficit Hyperactivity Disorders Clinic because all the teachers and school staff who had contact with him described him as being in constant motion; his classroom teacher, "though loving and patient, was exasperated by his intensity and drive." Donald's parents did not experience similar problems with him at home, but they brought him to the clinic because Donald's private school informed them that he wouldn't be allowed to return to the school unless his hyperactivity was brought under control (Gordon, 1991, pp. 8-9). Experts at the clinic discovered, however, that Donald was bored at school. As psychologist Michael Gordon summarizes,

> It turns out that his favorite academic pursuit was teaching himself Chinese characters in the hope that one day he might travel to the Orient with his father (who was a college professor of languages). Donald was not about to attend to math problems he was able to manage in preschool when the lure of more stimulating material was at hand. When the teacher forbade his "doodling," he could not tolerate the daily tedium and decided to keep himself busy in more provocative and disruptive ways. (Gordon, 1991, p. 14)

Balanced against this story of overly hasty diagnosis of an attention deficit disorder is the story of a child whose disorder remained undiagnosed until high school:

After a major suicide attempt, sixteen-year-old John was hospitalized for depression. As his mother later told the psychiatrist, yes, one of his teachers had indicated that he had a short attention span. But when John's second grade teacher said that he seemed to have a short attention span because he didn't finish his work, his mother pointed out that he found the work boring, and that he was quite capable of sustaining attention to something that interested him: in fact, he had recently spent three hours intently looking for snails in the stream in Milham Park.

John's school years passed fairly uneventfully until sixth grade, when his teacher suggested private tutoring because this obviously bright child was receiving a D on a research project that he hadn't completed. At the teacher's suggestion, her mother, a retired teacher and experienced tutor, was hired. What ensued was expensive hours spent jumping on the trampoline, practicing handwriting, and trying to learn to organize his work. Somehow John finished middle school on the honor roll. In high school, however, his work quickly began to deteriorate. His ninth grade Algebra teacher commented that he was one of those people who might come up with a new mathematical theorem, but never get around to publishing it. The next math teacher simply failed him in Algebra. Time and again, he demonstrated that he was quite capable of doing A+ work on creative projects, while failing tests on detailed, factual material--even within the same class. After two years of worsening depression, John attempted to commit suicide after admitting to his mother that when she went to parent-teacher conferences that evening, she would find that he had slipped from A to C work and worse in second year French, which he was taking for the second time. While hospitalized, John was diagnosed as having an attention deficit disorder.

The story of the initially misdiagnosed case of hyperactivity is from Michael Gordon's *ADHD/Hyperactivity: A Consumer's Guide* (1991). The story of the undiagnosed attention deficit child is from my personal experience. The John in this case is my son.

This personal experience has led to my professional interest in ADHD, which at present is officially known as "Attention Deficit Hyperactivity Disorder" (American Psychiatric Association, *DSM III-R*, 1987). My first reaction to the psychiatrist's suggestion that John might have an Attention Deficit Disorder was disbelief. John clearly wasn't very hyperactive, and he repeatedly received A's and A+'s on major projects when I helped him think through what needed to be done, guided him in developing a series of deadlines, and then supervised his completion of the work. Furthermore, I had read articles in the mid 1970s suggesting that there was no such disorder as "hyperactivity." This was a myth devised by parents and especially teachers who just couldn't, or wouldn't, cope with the individual needs of the rambunctious and bored child. There was even a book called *The Myth of the Hyperactive Child* (Schrag & Divoky, 1975) that I vaguely recalled hearing about. Furthermore, as a whole language educator, I had become convinced that labeling children as disabled usually does more harm than good (e.g. D. Taylor, 1990; also Heshushius, 1989; Poplin, 1988, and Coles, 1987). Of course I was not about to accept the psychiatrist's tentative diagnosis.

But being a scholar as well as the parent of a child who was clearly in trouble, I began to read: a book on depression, articles and pamphlets on Attention Deficit Disorder (as it was then called), and even a book or two intended for pediatricians rather than the public. What I found led me to reconsider not only the diagnosis of my son, but my previous knee-jerk tendency to consider all labeling of children as necessarily more harmful than beneficial. In similar vein, I'd like to invite sceptics to willingly suspend disbelief long enough to consider the possibility that a simplistic rejection of labels might be an

inadequate and unhelpful response to the cluster of behaviors sometimes labeled as an Attention Deficit Hyperactivity Disorder.

First, I will discuss social criticisms of the origin and consequences of the concept of ADHD, then suggest why a systems theory reconceptualization of ADHD might be more practical as well as more satisfying theoretically. After discussing the concept, diagnosis, and "treatment" of ADHD in more detail, I will concentrate upon effective strategies for educating students with an alleged Attention Deficit Hyperactivity Disorder.

Social Perspectives on ADHD

Clearly, the prevailing concept of ADHD is a medical one: those exhibiting significant problems in maintaining attention and restraining impulses are said to have a disorder, which implies some sort of malfunction within the individual. Until recently, however, the evidence for a biological basis to such behaviors was sketchy, and even now, it is not conclusive.

No wonder, then, that social critics have seized upon ADHD as one symptom of cultural values they find reprehensible.

Schachar (1986) points out, for example, that the concept of "hyperkinesis"--which is the historical antecedent of today's ADHD--developed shortly after the turn of the century, when Darwin's concept of "survival of the fittest" was frequently invoked to explain and justify socioeconomic inequities that must surely--so the argument ran--develop from constitutional weaknesses in the poor. More generally, physiological differences were sought as explanation and justification for class differences. Thus physical evidence of brain damage leading to hyperactive behavior in a few individuals led to subsequent hypotheses of minimal brain damage or minimal brain dysfunction as the cause of hyperkinetic and related behaviors, even when no corroborating evidence was available.

Given the inconclusiveness of the evidence for a physical basis to a hyperkinetic syndrome, Schrag and Divoky raise different social criticisms in their 1975 book, *The Myth of the Hyperactive Child: And Other Means of Child Control.* They are understandably concerned with a society and educational system that have so narrowed the definition of "acceptable" behavior and of "learning" that increasing numbers of children cannot succeed except by being labeled "deviant," with lowered expectations as to what constitutes learning and success. To the degree that parents try to fit their children into such an educational system and society, they are reinforcing that system and set of values, according to Schrag and Divoky.

Schachar points out, too, that positing a hyperkinetic syndrome in the absence of conclusive physiological evidence amounts to salving our individual and collective consciences:

> It [the concept of the hyperkinetic syndrome] has provided educators, politicians and parents with an explanation of failure of their children that imputes no failure or stigma to the school, parents, child or society. (Schachar, 1986, p. 36)

In short, the concept of ADHD assuages our guilt by absolving us of responsibility.

Selectively citing certain research studies, Coles derides the notion of a neurological factor in ADHD as a prelude to arguing that learning disabilities--both alleged and actual--are caused by environmental factors. He argues persuasively that if "the structural forces and relationships in the interactivity that produces educational failure are not addressed, challenged, and changed, the educational 'poor' will be with us forever" (Coles, 1987, p. 213). (For other valid criticisms, see the well researched article by Kohn, 1989).

The problem is that however well justified, these criticisms of the concept of ADHD offer no <u>immediate</u> hope or help to the children whose difficulties with attention, impulsivity, and hyperactivity are forever getting them into difficulties: at home, at school, on the playground, and in a myriad of social settings. In fact, Schrag and Divoky strongly

imply that it is better to let our children fail than to help them succeed within such a flawed social and educational system. Few parents or teachers would willingly accept that alternative.

I suggest that what's needed is a both/and perspective: a perspective that simultaneously acknowledges the validity of the social criticisms and works toward changing society, but at the same time acknowledges and attempts to alleviate the very real difficulties of the children in our homes and schools right now--and the difficulties of those who live, work, and play with them. Each approach supports the other; they are two sides of a coin. It is only natural that some of us will be drawn more to the former task, and some to the latter.

Both/and Thinking: The Implications of a Transactional Paradigm

In my writings, I have often contrasted a mechanistic, "transmission" paradigm of education with the "transactional" paradigm that underlies whole language (Weaver, 1985, 1988, 1990); others have used different terms for essentially the same paradigms (e.g. Heshusius, 1989; Poplin 1988a and 1988b). According to the transactional, "relational" paradigm (Weaver 1991), learning is not simply transmitted from teacher to student, nor--at the opposite extreme--does it simply occur autogenously, out of the individual himself or herself. Learning requires transactions with an external environment: hence the emphasis on collaborative learning among whole language educators.

Historically, one of the "recent" antecedents for this way of thinking comes from quantum physicists, who study the behavior of particles smaller than the atom. Shortly after the turn of the century, they discovered that light is either a particle or a wave, depending upon how its characteristics are measured--or how the scientist "transacts" with the external environment. Or to put it differently, light is both a particle and a wave, depending upon how we view it (Zukav, 1979).

I'd like to suggest that this both/and way of thinking is part of the intellectual heritage of a transactional paradigm, and part of the philosophical underpinnings of whole language--a philosophy of education that will be further clarified by example in the discussion of how ADHD students can be educated more effectively.

A Systems View of ADHD

What does it mean to take a both/and view of ADHD? I think it means at least four things:

1. While trying to change the educational and social system to be more accepting of individual differences, we need to recognize that this will by no means solve all the problems caused by ADHD behaviors. Railing against the system is not enough: we need also to help the individual child and those who surround him or her.
2. It means recognizing that while ADHD may be characterized as difficulty in responding to certain kinds of expectations and demands, it may nevertheless have origins in the individual's neurological functioning--in biology and physiology.
3. It means recognizing that even the biological and physiological aspects of ADHD may stem from environmental rather than genetic causes, though heredity does often seem to be a factor.
4. It means not just "treating" or attempting to change the behavior of the individual, but changing our expectations and demands and our ways of interacting with the child, adolescent, or adult who exhibits ADHD behaviors.

This is in effect a general systems view (von Bertalanffy, as discussed in Davidson, 1983), a view that rejects simplistic cause-effect reasoning and linear explanations, a view that sees causes as multi-dimensional and multi-directional: in short, a view compatible with and

contributing to a whole language philosophy of education. See Figure 1 for a visual representation of this system's view of ADHD and the complex interrelationships that give rise to and alleviate ADHD behaviors.

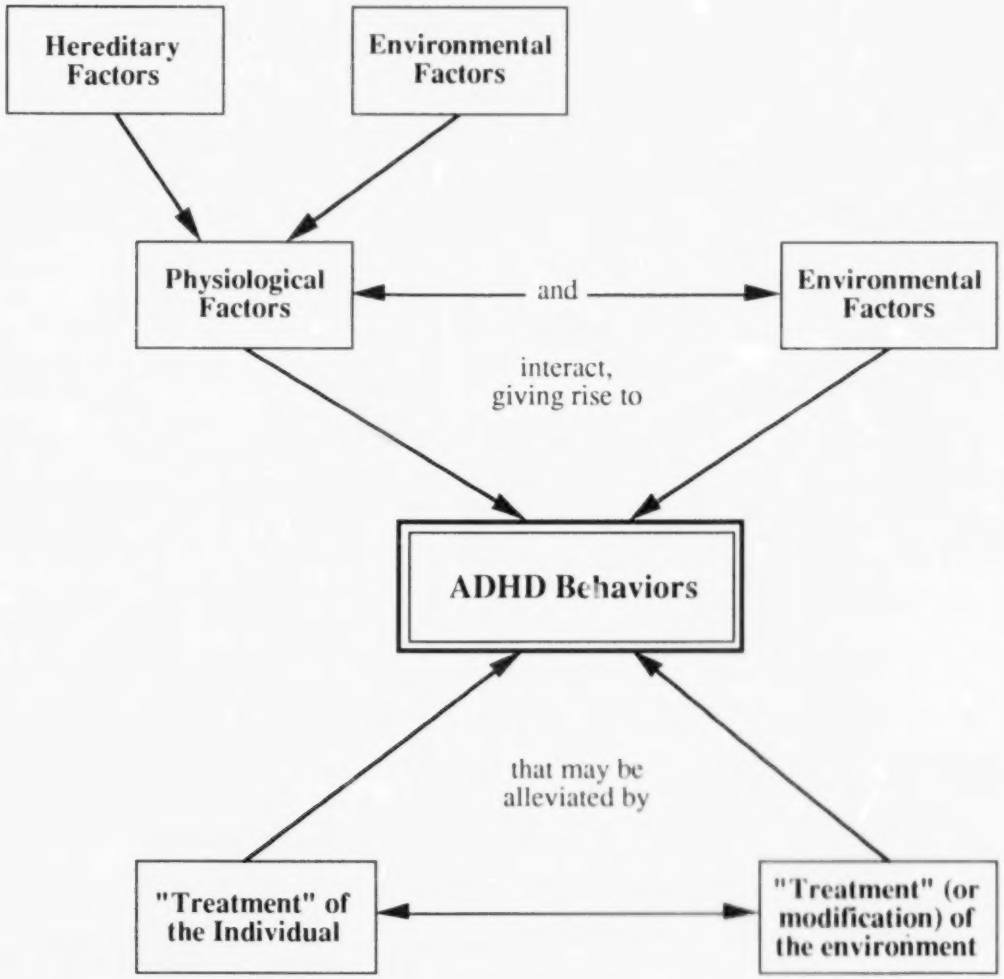

Figure 1. A both/and, systems-theory model of the genesis and alleviation of ADHD behaviors.

Toward an understanding of ADHD

Before continuing, it is important to note that children may have an attention deficit disorder without impulsivity and hyperactivity. Girls, especially, seem more prone to this kind of attention difficulty (e.g. Lahey and Carson, 1991; Epstein, Shaywitz, Shaywitz, and Woolston, 1991).

Attention Deficit Hyperactivity Disorder, however, is characterized by problems in restraining impulses as well as in focusing and maintaining attention. Conservatively, it is estimated that 3-5% of the school-age population (probably from 1.4 to 2.2 million students) have such an attention deficit (Barkley, 1990, p. 61). The hyperactivity associated with ADHD is related to, and may very well stem from, the difficulty in restraining impulses. One psychologist who is an expert on ADHD calls this difficulty "behavioral disinhibition" (Barkley, 1990, pp. 41-43).

In general, ADHD individuals appear virtually unable to resist acting upon impulses, including impulses to do something (anything!) other than boring schoolwork. These individuals--children, adolescents, and even adults--seem unable to use what they know about the social inappropriateness or probable consequences of their actions to control their behavior. For example:

> Children may engage in disruptive, aggressive, or destructive behavior in the classroom--even though they know they're likely to be reprimanded or punished. They may engage in dangerous actions or activities at home and at play, even though they "know" they are likely to be hurt. And they may say and do things that antagonize and alienate their peers, even though they "know better" and desperately want to be accepted.

> Adolescents may impulsively exceed the speed limit by huge margins, even when they know the streets are heavily patrolled, when they've

previously received tickets for such excesses, and when they "know" that one more violation could result in losing their driver's license.

Adults may engage in impulsive buying, even though they "know" their family cannot afford their extravagances, their spouse will be distraught by their actions, and one more such incident could be the last straw leading to a divorce they emphatically don't want.

Of course, each situation reflects a complexity of factors, and people who do not have ADHD will also engage in such seemingly self-defeating actions. But to reiterate, ADHD individuals seem virtually unable to regulate their behavior by its likely consequences. They frequently seem unable to choose how they will act, based on what they know about how other people will react. They seem to be at the mercy of their emotions and impulses, which in turn are often reactions to the environment. Clearly the cause of ADHD behaviors cannot be attributed solely to the individual, but must be attributed to the environment as well.

A medical perspective

The traditional medical model of ADHD is a deficit model, which is why whole language educators and others have tended to reject the notion that there is such a thing as ADHD. Nevertheless, there is growing evidence that intractable impulsivity, hyperactivity, and inattentiveness may result from neurological structure and/or functioning. However, we might more appropriately think of differences in functioning, rather than deficits--and of quantative rather than qualitative differences (Shelton & Barkley, 1990, p. 214). These quantitative differences give rise to behaviors along a continuum, from what is socially desirable and functional for the individual to what is socially intolerable and self-defeating.

Viewed this way, a medical perspective makes a valuable contribution to a broader systems view of ADHD.

Some recent studies suggest differences in size or functioning of different aspects of the central nervous system (Hynd, Semrud-Clikeman, Lorys, Novey, Eliopulos, and Lyytinen, 1991; Klorman, 1991). Blood flow studies and recent studies using high-tech procedures like Brain Electronic Activity Mapping (BEAM), Magnetic Resonance Imaging (MRI), and Positron Emission Tomography (PET) increasingly link ADHD to underfunctioning of certain neural pathways within the central nervous system (Barkley, 1990, p. 29; Shelton & Barkley, 1990, p. 211). Other lines of research suggest that what causes this "underfunctioning" may be an insufficiency of certain brain chemicals, most notably certain neurotransmitters like dopamine and norepinephrine (Zametkin & Rapoport, 1987). A recent and widely publicized study by Zametkin and his colleagues at the National Institute of Mental Health used PET scans (Positron Emission Tomography) to confirm earlier findings of reduced glucose metabolism in the brains of ADHD adults, compared with others--particularly in the pre-motor cortex and the superior prefrontal cortex (Zametkin et al., 1990). See Figure 2, next page.

While there is no clear-cut evidence as to exactly what aspects of brain structure or functioning seem to be implicated in ADHD, researchers seem to be converging on evidence that ADHD behaviors derive from a bio/physiological condition, with heredity often a factor in a child's development of ADHD. (I base this conclusion on a wider range of studies than those discussed in Coles, 1987, including several studies that are more recent). Other causes may include brain damage, pregnancy factors (e.g. maternal consumption of alcohol) and birth complications, toxins (especially lead), infections, and diet. Sensational claims have been made about food additives or sugar causing hyperactive behavior (e.g. Feingold, 1975), but a sizable body of research has failed to confirm these as common causes of ADHD (see discussions in Barkley, 1990, pp. 95-100; Gordon,

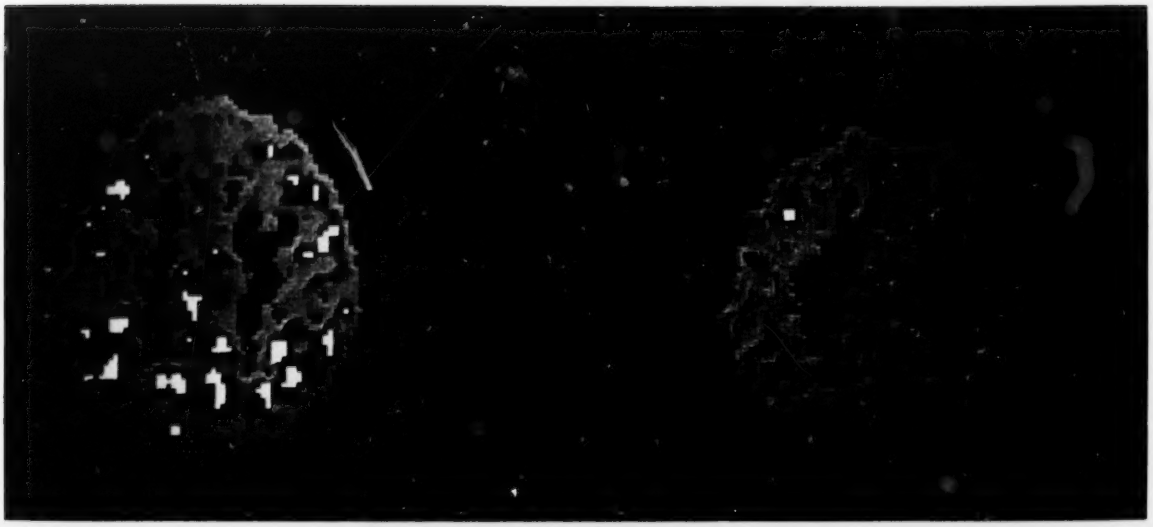

Figure 2. PET scan images: The image on the left is the normal control, while the one on the right is the ADHD adult.

The left side of each image represents the right side of the brain.
In the original color images, white, red, and orange indicate areas of relatively high glucose metabolism, whereas blue, green, and purple indicate areas of lower glucose metabolism.

From A. J. Zametkin, et al., *New England Journal Of Medicine*, November 15, 1990. The color version is printed in the Spring/Summer issue of *CH. A. D. D. ER*, a journal published by CH. A. D. D. (See list of references and resources at end of this paper.)

1991, pp. 69-72). Clearly, though, environment as well as heredity may contribute to the particular neurological functioning that seems to be a major component of ADHD.

This, then, is a succinct description of the medical contribution that I think must necessarily constitute part of a systems theory of Attention Deficit Hyperactivity Disorder--with a focus on differences, however, rather than deficits. And yes, I do think ADHD exists, with a neurological factor contributing to this social phenomenon: even though it is constantly being defined and redefined by the experts, even though researchers do not completely understand its causes or the mechanisms by which it operates, and even though there are significant disagreements as well as a significant degree of consensus within the field (Shaywitz and Shaywitz, 1991). After all, there seems to be no more uncertainty or controversy about ADHD and what to do about it than there is about reading and how--or whether--to teach it.

A sociological perspective

As previous examples indicate, environmental factors may play a role in the genesis of ADHD, as well as in its definition and diagnosis. In addition, social and situational factors play a role in the maintenance and treatment of ADHD. For the moment, I will focus on the maintenance of ADHD behaviors. People and situations can make it harder for ADHD individuals to restrain impulsive and hyperactive behavior and to pay attention, or they can make it easier to exercise self-control and maintain attention. The following excerpt from a session with a therapist provides an all-too-typical example of how a parent can exacerbate a teenager's ADHD behavior. The therapist's comments begin to clarify how, in systems theory, ADHD is viewed as an interaction between the characteristics of the individual, on the one hand, and the demands, expectations, initiations and responses from the external environment, on the other. In this case, we see how the mother exacerbates the teenager's predisposition:

Therapist: So what are the major problems at home?

Mrs. Cohen: Matthew's bad temper. He gets really angry for no good reason. Then he curses, yells, and is totally out of control.

Matthew: You're full of it, Mom! I don't do that! You're just a nag!

Therapist: Wait a minute, Matt. I know you feel strongly about this, but I have to check out something with your mother first. Give me a play-by-play description of a recent temper outburst.

Mrs. Cohen: I said, "Don't you have homework?" He said, "No," and I said, "Come on, your teacher says she always gives homework. Tell us the truth." And . . .

Matthew: See, there she goes bugging me and thinking I'm always lying.

Therapist: Matthew, I know you feel strongly. And I can see how when your mom puts you on the spot about homework, you come out slugging.

Mrs. Cohen: Doc, you got it. He actually ended up pushing and hitting me last night.

Therapist: So, when you say that Matt loses his temper easily, you are talking about something between you and Matt, not just Matt. You ask nicely first. He doesn't answer. So you turn the screws a bit and press him, suggesting he is lying or holding back on you. He clobbers you back. We are looking at a sequence of communication between the two of you, not just one person losing his temper, right?

Mrs. Cohen: I guess so, but it's his ADHD that makes him do it, not my question.

Mattahew: There she goes again, with that ADHD shit! Next she's going to tell you about Ritalin, "the miracle drug."

Therapist: Matt, sounds like you get pretty mad and sarcastic when your mom blames your ADHD for everything. Mrs. Cohen, a person with ADHD is like a tightly stretched guitar string. The string can break if you pluck it too hard, but it must be plucked to break. Matt may be more likely to explode because of his biology, but it still takes your statement to set him off. And with the guitar, if you pluck

> the string just right, you can make beautiful music. You and Matt have the potential to get along with more harmony, even if his ADHD makes him like the tight string. This is a two-person problem. We need to change how you two communicate, not just Matt and not just Mom. (Robin, 1990, pp. 471-2)

Here we see the therapist reframing the problem: ADHD does not merely reside within the individual. Rather, it arises as the individual transacts with the external environment. In this sense, ADHD is something like Louise Rosenblatt's metaphorical concept of the "Poem," the meaningful rendering of a text (1978). A text has the potential to mean, yet meaning does not reside within the text: it arises as a reader transacts with the text and is influenced by various kinds of context. Similarly, with ADHD: an individual has the potential for certain behaviors that characterize ADHD, but the extent to which and the ways in which these are manifested depend somewhat, and sometimes a lot, upon the external environment.

Situational demands can have a profound effect upon ADHD behaviors. For example, research clearly demonstrates that ADHD children have great difficulty attending to tasks that they find boring, such as completing dittos and worksheets. They find it much easier to attend to tasks they find stimulating and meaningful. While some critics and even clinicians have assumed that such situational variation might automatically rule out a diagnosis of ADHD, other researchers have suggested that variation across situations might even be considered a defininig characteristic of ADHD (Barkley, 1990, p. 49). In other words, it may be primarily ADHD individuals who find it virtually impossible to complete boring tasks, yet somehow (or sometimes) possible to complete what genuinely interests them.

At any rate, what emerges is a picture of ADHD as a "system" involving both individual characteristics and environmental influences. Within the life of an individual who is biologically/physiologically predisposed to certain kinds of behaviors, various

forces intersect and interact: parents, teachers, and peers, for example; or home, school, neighborhood, and community. These participate in creating what is perceived as ADHD. It's a both/and phenomenon: both bio/physiological and sociological, involving the individual in transactions with society. Though I came to this sytems conceptualization of ADHD independently, I have been pleased to discover that this is an emerging perspective among some psychologists who are experts on ADHD (Anastopoulos, DuPaul, & Barkley, 1991; Barkley, 1990; Robin, 1990; Robin and Foster, 1989; E. Taylor, 1986; implicit also in Gordon, 1991). See, in particular, Russell Barkley's *Attention Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment* (1990), a compendium and analysis of extant research that served as a major resource for this paper.

Characterizing ADHD

The American Psychiatric Association is in the process of revising the "official" criteria for diagnosing ADHD. It seems likely that the forthcoming *Diagnostic and Statistical Manual* (version IV) will list the defining characteristics under two relatively separate behavioral dimensions, Inattention-disorganization, and Impulsivity-hyperactivity (e.g. Lahey & Carlson, 1991).

Drawing upon and extrapolating from various sources in the professional literature, including versions III and III-Revised of the *Diagnostic and Statistical Manual*, I have developed my own partially idiosyncratic list of behaviors characteristic of ADHD.

The impulsivity that now seems to be the major characteristic of ADHD can manifest itself in various ways, such as these:

1. Difficulty in obeying rules--which may lead to difficulty in obeying the law.
2. Interrupting people, calling out in class, talking incessantly in movies and while

watching TV.

3. Speaking irritably and angrily to people, with little or no provocation.
4. Hitting others, or in some other way acting out negative emotions toward them.
5. Responding impatiently or angrily when needs and wants are not immediately met, and when expectations or routines are changed; low tolerance for frustration.
6. Tendency to do whatever catches interest and attention at the moment, regardless of consequences.
7. Difficulty modifying behavior in the here-and-now to achieve desirable goals, particularly long-range goals.
8. Tendency to be quarrelsome, argumentative; overly sensitive to teasing or criticism.

Some of these characteristics are more typical of those defining an "Oppositional Defiant Disorder" than of those officially characterizing ADHD itself, but they occur among about 40-60% of ADHD individuals, particularly boys (Fletcher, Morris, & Francis, 1991; Barkley, 1990, p. 433; Szatmari, Boyle, and Offord, 1989). To me, at least, these characteristics seem related to difficulty in refraining from acting upon impulses, particularly impulses triggered by emotion.* By the time the fourth or fifth edition of the *Diagnostic and Statistical Manual* is published, subtypes of ADHD will probably be specified--including, I expect, a subtype with oppositional and/or conduct disorder (Cantwell & Baker, 1991; Dykman & Ackerman, 1991). Meanwhile, Figure 3 (next page) presents the DSM-III-R characterizations of ADHD, Oppositional Defiant Disorder, and Conduct Disorder, all of which co-occur with some frequency, but are not the same.

*Currently, the "official" criteria for diagnosing ADHD are those listed in the American Psychiatric Association's *Diagnostic and Statistical Manual, III-R* (1987). My list of behaviors associated with impulsivity might result in characterizing as ADHD some children who more clearly reflect characteristics of an "Oppositional Defiant Disorder," with only a few ADHD tendencies. Since oppositional, defiant behavior is more common among lower socio-economic, non-mainstream children (Barkley, 1990), the most inappropriate effect of using my list diagnostically might be to overdiagnose ADHD among lower SES children.

Attention-Deficit Hyperactivity Disorder

1. Fidgets
2. Difficulty remaining seated
3. Easily distracted
4. Difficulty waiting turn
5. Blurts out answers
6. Difficulty following instructions
7. Difficulty sustaining attention
8. Shifts from one uncompleted task to another
9. Difficulty playing quietly
10. Talks excessively
11. Interrupts others
12. Doesn't seem to listen
13. Loses things needed for tasks
14. Engages in physically dangerous activities

Oppositional Defiant Disorder

1. Argues with adults
2. Defies adult requests
3. Deliberately annoys others
4. Blames others for own mistakes
5. Acts touchy or easily annoyed by others
6. Angry or resentful
7. Spiteful or vindictive
8. Swears

Conduct Disorder

1. Has stolen without confrontation
2. Has run away from home overnight at least twice
3. Lies
4. Has deliberately engaged in fire setting
5. Truant
6. Has broken into home, building, or car
7. Has deliberately destroyed others' property
8. Physically cruel to animals
9. Has forced someone into sexual activity
10. Has used a weapon in a fight
11. Initiates physical fights
12. Has stolen with confrontation
13. Physically cruel to people

Fig 3. Diagnostic criteria, from the American Psychiatric Association's *DSM-III-R*.

To be considered as having ADHD, children must exhibit not only impulsive and hyperactive behavior, but difficulties in focusing and maintaining attention. The attention-related problems may also manifest themselves in a variety of related ways, such as these:

1. Difficulty attending to what someone is saying; easily distracted.
2. Difficulty listening to instructions; particular difficulty grasping instructions consisting of several steps.
3. Difficulty settling down to work on a task.
4. Difficulty in organizing work.
5. Difficulty attending to a task without being distracted, or without getting restless or fidgety.
6. Tendency to shuttle from one activity to another instead of focusing on one and completing it.
7. Difficulty following through on work until it is completed, particularly when the task involves several steps or requires sustained attention over a period of time.
8. Tendency to regard lots of things as "boring," apparently because they require such an effort of concentration.

Of course, each individual is unique in his or her particular constellation of characteristics.

It is important to realize that for those with ADHD, their various problems with impulsivity and attention may be severe and pervasive enough to cause difficulties in doing schoolwork, to create problems with parents and siblings at home, to create barriers to making friends and being accepted socially, later to create problems on the job, and sometimes to get them in trouble with the law. Thus ADHD is a handicapping condition in general, not a learning disability or even a learning "difference." Furthermore, it is now recognized that at least 70-80% of the children diagnosed as ADHD are likely to exhibit many of these characteristics in adolescence, to a degree inappropriate for their age group,

and an estimated 50-80% are likely to exhibit problems with impulsivity and inattention in adulthood as well (Barkley 1990, p. 114 and p. xi, respectively; see also Kane, Mikalac, Benjamin, and Barkley, 1990).

In sum, a definition and characterization of ADHD rests significantly upon what is functional for the individual within society. In effect, ADHD is a disorder defined by the expectations of society---an interpretation of behaviors that may have a bio/physiological basis, but that are certainly exacerbated by some kinds of environmental conditions and alleviated by others.

Assessing ADHD

As the opening anecdote illustrates, hyperactive behavior is not necessarily indicative of ADHD, nor is all failure to maintain attention or to inhibit impulses. Even for the trained clinician, it is not always easy to distinguish ADHD from other kinds of disorders, disabilities, or physical or emotional problems. Therefore, any attempt to diagnose ADHD, or to rule it out, should include at least the following: (1) extensive interviews with parents, the child, and ideally the teacher as well; (2) behavior rating scales completed by parent(s) and teacher(s); and (3) a medical examination. Where feasible, these can be supplemented by observations in natural settings and/or by laboratory tests of attention. But high-technology procedures like PET scans are not not reliable enough for diagnosis, however appealing they might be (Shelton and Barkley, 1990; Barkley, 1990).

By themselves, neither the subjective behavioral rating scales nor the "objective" laboratory tests of attention are completely reliable as diagnostic tools (e.g. Barkley, 1990, pp. 328-334). To a significant degree, ADHD remains within the eye of the beholder, and different beholders see different things. Nevertheless, a clinician experienced with ADHD can usually make a fairly reliable diagnosis by considering various sources of information

in concert with one another. Clearly, diagnosis is an art rather than a science--but then, so is our profession, teaching.

As an aid to diagnosis, there are quite a few behavioral checklists that can be used by parents, teachers, or both parents and teachers, keeping in mind that symptoms should be present to a degree inappropriate for the child's age and sex (Barkley 1990, pp. 61-62). In his research compendium titled *Attention Deficit Hyperactivity Disorder*, designed as a practical guide for clinical practice, Russell Barkley describes and critiques a number of these checklists. One, for example, is based directly upon the DSM-III-R's fourteen criteria for diagnosing ADHD. Parents and teachers are asked to rate the child with respect to each of these behaviors. Does the child exhibit the behavior not at all? Just a little? Pretty much? Very much? This is one of the rating scales that has been shown to discriminate ADHD children from learning-disabled and normal children, as well as to differentiate ADHD children from those who have problems with attention but not with impulsivity or hyperactivity (DuPaul, 1990). This checklist and a number of others are included in a collection of procedures and forms for the clinician (Barkley, 1991). Also valuable is the Copeland Symptom Checklist for Attention Deficit Disorders (Copeland & Love, 1990), though it must be used with caution because some of the behaviors are symptomatic of often-related problems rather than of attention deficits per se.

Note that there is a crucial difference between the way learning disabilities are generally diagnosed, and the way ADHD is diagnosed. Learning disabilities are attributed to children mainly as a result of their scores on decontextualized tests of isolated skills. In contrast, ADHD is diagnosed primarily when there is a mismatch between the expectations and demands of <u>everyday life</u> and what the child seems capable of. A diagnosis of ADHD may be typically less "objective," yet considerably more <u>real</u>.

Treatment of ADHD: A Systems Theory Model

Consistent with the both/and systems theory model developed here, "treatment" of ADHD will be considered under two separate headings, one dealing with the individual and the other dealing with the environmental aspects of the "system."

Treatment of the individual

Unfortunately, the most certain statement that can be made about treatment of ADHD is that there is NO treatment that consistently or typically produces long-term effects. This is consistent with the hypothesis that the disorder has a neurological or more specifically a biochemical basis. To date, even the chemical treatments for ADHD, such as Ritalin, work only for a few hours at a time, and unevenly at that. And both behavioral and cognitive approaches also seem to have limited effects, seldom generalizing or transferring to times or situations other than when the training programs are in effect (Pfiffner & Barkley, 1990, pp. 538-9). Indeed, recent research suggests that most ADHD children are likely to demonstrate a significant degree of impulsivity and inattentiveness into and probably throughout adulthood, despite treatment during childhood and possibly adolescence. Again, these observations are consistent with the hypothesis of a neurological factor.

Research indicates that medication complemented by cognitive or behavioral therapy is more effective than any of the three common treatments alone. I will briefly discuss each of these three approaches, then turn to a systems concept of ameliorating the behavioral omissions and commissions associated with ADHD.

Medication

Despite the controversy over Ritalin initiated by the Church of Scientology in the late 1980s (Baren, 1989; Barkley, 1990, references many of the original sources in his

discussion, pp. 34-36), its effectiveness and reasonable safety have been demonstrated in hundreds of research studies (but see Anastopoulos, DuPaul, & Barkley, 1991; Whalen & Henker, 1991). And though parents and teachers may rightly be concerned about "drugging" children to improve their behavior, using chemicals to stimulate brain functioning is perhaps no more reprehensible than using chemicals to stimulate, simulate, or improve any other aspect of bodily functioning.

Clearly there have been abuses in overprescribing Ritalin for children who are not genuinely ADHD, and in not adequately determining the appropriate dosage or monitoring the drug's use. And clearly there is the possibility of negative side effects, most notably the possibility of initiating or exacerbating nervous tics (Tourette's syndrome), though this serious problem is relatively rare. On the other hand, between 70% and 80% of children with ADHD do appear to exhibit a positive response to central nervous stimulants (Ritalin, Cylert, or less often Dexadrine), an improvement significantly greater than that perceived with placebos (DuPaul and Barkley, 1990; Gordon, 1991), and greater than the effects of most other treatments alone. That is, these medications typically reduce impulsive and hyperactive behavior and increase attentive behavior, during the few hours for which each dose is effective.

Other medications, notably impramine (a tricyclic antidepressant) have been used successfully with some children, especially those for whom the stimulants are ineffective or inappropriate. However, the effects of tricyclics on ADHD and the possible side effects are not nearly as well researched as those of the stimulants (see, for example, Gordon 1991).

Because of their efficacy and the relative ease and cost of medication therapy, stimulants are increasingly seen as the treatment of choice by many professionals and parents. However, it must be reiterated that the effects are only temporary, that no medication (to date) cures ADHD, and that ideally, medications should not be the only therapy.

Cognitive techniques for self-control

The logic behind cognitive behavior therapy is to help children develop self-control of their behavior, instead of relying on external controls: to get them to "stop, look, listen, and think" before acting. Based on the work of the Russian neuropsychologist Luria (1966) as well as others, these approaches emphasize the need for helping impulsive children develop self-directed speech to guide their response to immediate problem situations (Barkley, 1990, pp. 31-2). These and a variety of other cognitive techniques are described and discussed in Pfiffner and Barkley, 1990. Unfortunately, the effective cognitive strategies and behaviors children have been able to exercise under laboratory conditions have generally not transferred to home or school situations. In short, cognitive training has not been very successful in helping children develop an inner locus of control (Abikoff, 1991; Pfiffner and Barkley, 1990, pp. 538-39). This again is consistent with the hypothesis that the root cause is neurological, a result of brain chemistry and functioning.

Barkley suggests that these self-control techniques are most useful when taught to parents and teachers, who can remind children to rehearse the procedures when situations requiring impulse control seem about to arise. He also suggests that these methods be combined with reinforcements for the children's self-controlled behavior.

Behavioral modification techniques

Neither cognitive nor behavioral modification techniques have proved as effective alone as stimulant medications, though either or both are valuable adjuncts to medication and may be the treatment of choice for some children--or by some parents. Behavioral management seems more effective than attempting to teach cognitive control, again consistent with the hypothesis of an underlying neurological factor. That is, the hypothesis of an underlying physiological cause would also explain why children are typically more able to respond appropriately to external controls via behavioral modification than to develop internal controls.

And yet, external control via behavioral modification also proves extremely difficult. Frustrated parents and teachers have been known to observe that their ADHD children seem to respond to neither reward nor punishment (e.g. Wender 1987). In fact, a lack of conventional response to reward and punishment seems to be a defining characteristic of ADHD (Barkley, 1990, pp. 67-73). To be successful with ADHD children, rewards and punishments (such as "response cost"--the withdrawal of a reward) have to be unusually--one might say incredibly--consistent, immediate, frequent, highly motivating, and modified often in order to maintain motivation (Pfiffner and Barkley, 1990, pp. 503-5). In short, successful behavioral modification of ADHD children proves extremely difficult.

Given that a whole language philosophy of learning draws upon cognitive psychology and embraces a cognitive perspective on learning, this difficulty with behavioral modification might be what whole language educators would expect--or even hope--to find. However, attempts to develop and maintain ADHD children's self-control seem even less successful, at least with time-limited, laboratory-type training situations.

Treatment of the environment

Each of the preceding "treatments" for ADHD has dealt with changing the individual considered to have an Attention Deficit Hyperactivity Disorder. A systems approach also involves altering the demands, expectations, and interactional patterns with the environment. One example is the way the therapist was beginning to work with Matt's mother in the previous excerpt from a therapy session. He was helping her understand how her behavior elicited characteristic ADHD responses from Matt.

A systems theory model of ADHD emphasizes the fact that the individual is not solely responsible for ADHD behaviors. Rather, they arise from the interaction--or transaction--between certain characteristics of the individual and the external environment,

including people, places, situations, and events. Thus, ADHD behaviors can be alleviated by changing the external environment as well as by changing or treating the individual.

Educating Attention Deficit Disorder Students

From a both/and, systems point of view, teachers and schools as well as parents must change how they interact with ADHD students and what they expect and demand of them. The traditional classroom requires of the ADHD student everything he or she is not good at: sitting still and not talking, concentrating on dittos and other skills work that the student finds boring, and not acting or speaking impulsively. Because the demands of the traditional classroom are so difficult for ADHD students to meet, perhaps it is not surprising that most of the professional literature on the schooling of ADHD students focuses almost exclusively on managing their behavior. This is unfortunate, leading many teachers to conclude that ADHD students can (at best) be only managed, not educated.

Whole Language: A systems perspective and approach

Whole language classrooms, by contrast, reflect a systems philosophy of education, adjusting the curriculum to meet the needs and interests of students imore than pressuring the students to fit into a predetermined curriculum (see the Further Readings at the end of this paper for references describing some of the principles of whole language). There are several specific ways that whole language teachers are likely to make both learning and living easier for ADHD students in their classrooms. For example:

1. Whole language teachers are particularly sensitive to the interests, abilities and needs of their students, both collectively and individually. They shape the curriculum with and in response to the students, instead of expecting the students to cope with a

prepackaged curriculum. And they attempt to meet the needs of individual students. This is particularly important for ADHD students.

2. Whole language teachers emphasize all students' strengths. They find ways of using students' strengths to alleviate, compensate for, or avoid accentuating their weaknesses. Emphasizing strengths is especially important for ADHD students, since they are so often criticized for their shortcomings. This aspect of whole language teaching is particularly important for boosting self-esteem and self-confidence.

3. Whole language teachers are alert for ways they can alleviate students' difficulties and work around their weaknesses. Recognizing that ADHD students typically find it difficult to complete written work, even that which is highly interesting to them, whole language teachers may try to provide ADHD students with computers and word processing programs. This helps these students complete their work before attention fades, and it avoids the problem of poor handwriting that typically plagues ADHD students. Whole language teachers may also encourage the use of a spelling checker for final drafts, knowing that many ADHD students have particular difficulty with spelling.

4. Whole language teachers avoid worksheets, workbooks, and isolated skills work--a particular blessing for ADHD students, who find it extraordinarily difficult to concentrate on such work.

5. Whole language teachers provide many opportunities for students to choose learning experiences that are meaningful to them: to choose what books to read, decide what to research and investigate, determine what to write and how to write it, for example. It is significantly easier for ADHD students to concentrate on tasks they find interesting and meaningful.

6. Whole language teachers encourage students to think not only critically but creatively, and to engage in learning experiences that foster such independence of thought and expression. This is especially important for many ADHD students, who may often be among the most creative and divergent thinkers in the class.

7. Whole language teachers allow and even encourage a significant degree of mobility in the classroom, as students locate resources, confer with peers, move from one learning center or area to another. They also tend to be tolerant of individual students' needs to fiddle with something, move their feet, or sit or lie in unconventional positions as they work. Recognizing that ADHD students may have strong needs to engage in activities that involve the hands or body, whole language teachers may be especially likely to provide for these needs through various curricular activities: hands-on math and science, creative drama, even music and dance, along with art.

8. Whole language teachers organize for collaborative learning: students working together on projects, sharing what they are reading and writing, helping each other solve problems, and so forth. Discussion and conversation are valued aspects of a whole language classroom, another blessing for ADHD students. As students work collaboratively, whole language teachers can help ADHD students develop self-control and social skills, while helping other students come to understand and accept the problems of ADHD students and begin to respond to them more positively.

9. Whole language teachers minimize the use of formal tests, but when they must administer them, they attempt to adjust to the needs of ADHD students as well as others. Some ADHD students may work impulsively; they need help in slowing down, thinking about, and checking their answers. Other ADHD students need extra time (even on standardized, timed tests), because their difficulty in concentrating slows them down. Whole language teachers typically minimize the use of test scores in evaluating students, which is particularly important for ADHD students because they are rarely able to demonstrate their strengths on formal tests--standardized or otherwise.

10. Whole language teachers tend to communicate frequently with parents, encouraging them to share their understanding of their child, work together for the child's success, and even participate actively in facilitating classroom learning experiences. Such close collaboration with parents can have particular benefits for the ADHD student.

Clearly, whole language learning and teaching reflect a both/and, transactional concept of learning: a systems theory approach.

Other teacher and classroom modifications

Most of the aforementioned tactics and techniques are more common in whole language classrooms than in traditional classrooms. However, there are several ways that all teachers knowledgeable about ADHD may help their students who have difficulty with impulsivity, hyperactivity, and attention. Again, such adjustments to the needs of the student reflect a systems concept of education. However, it should be noted that several of these adjustments would help many students, not just those with an Attention Deficit Hyperactivity Disorder.

1. Teachers may help ADHD students (and others) develop strategies for minimizing the effects of emotion-controlled, impulsive behavior. When a student is inclined to keep arguing with the teacher or with a peer, for example, the teacher can indicate that both parties need to take "time out" to regain self-control. This defuses the situation, but doesn't lay blame exclusively on the ADHD student. The same approach can be taken when the student has impulsively engaged in other disruptive or aggressive behavior that will later need to be discussed and dealt with.

2. Knowledgeable and sensitive teachers avoid shaming or laying a guilt trip upon ADHD students when they have behaved inappropriately. Knowing that self-control is difficult and often impossible, they remain sympathetic to the student, while rejecting the behavior. For the same reason, they ignore or avoid making an issue of minor disruptions.

3. To help students grasp instructions, teachers may adopt such strategies as these: (1) obtain eye contact with an ADHD student before giving instructions, or before repeating instructions for the benefit of that student; (2) write instructions on the chalkboard and make sure that the ADHD student has copied them correctly; (3) write down instructions

for the ADHD student; (4) check to be sure that the ADHD student understands instructions before beginning a task; (5) issue a complex set of instructions one step at a time.

4. Recognizing the difficulties that ADHD students have in settling down to work and sustaining their attention to a task, sensitive teachers will keep ADHD students' homework to a minimum: by providing for work to be completed during class, for example, and even by assigning them less homework than other students. Having worked extensively with schools to help ADHD students, psychologist Michael Gordon suggests no more than 30-45 minutes of homework for ADHD children in the elementary grades, and no more than an hour or so for older children (Gordon, 1991, p. 132).

5. To make sure ADHD students are organized to do whatever homework is required, teachers may need to make sure that such students have homework assignments written down; that they understand these assignments; and that they leave school with the materials neeeded to do their work. Teachers may see that such students have an assignment notebook, check the students' progress daily, and work with parents to see that work is accomplished. ADHD students often need such support even when the "homework" involves something the student is highly interested in.

6. Recognizing that ADHD students may not be able to take as much responsibility for their own work as many other students, teachers may collaborate with their students to develop an organizational plan for completing major projects, then to develop a series of intermediate "due dates" and an assignment calendar. Subsequently, teachers may supervise and monitor the students' completion of each step of the work.

7. Teachers and parents may establish a "note-home" program, according to which the teacher(s) report(s) on certain agreed-upon concerns: typically on work completed or not completed and turned in. Even high school ADHD students may need this kind of monitoring system daily. To make it work, parents may have to establish a reward and response cost program,with response cost (withdrawal of a reward) if the note or form from the teacher(s) is not brought home completed). For suggestions on how to set up

such a program, see Pfiffner and Barkley's chapter in Barkley (1990); Copeland & Love (1990) include some sample forms.

8. Teachers may provide a quiet space with few distractions for ADHD students to complete written work that is to be done independently. This includes tests.

9. Recognizing that ADHD students are especially frustrated by departures from the expected, knowledgeable teachers provide a classroom environment and routine with predictable structure and clear and consistent expectations. This provides security for all students: a safe environment in which to take the risks necessary for learning.

10. In general, knowledgeable and sensitive teachers will find ways of enabling the ADHD student to succeed in school, regardless of their problems with impulsivity, hyperactivity, and inattention. This may require soliciting additional help for the student, even occasionally to the point of removing the child from the regular classroom. (More on this below.)

These strategies reflect a systems perspective by adjusting the environment and environmental demands to meet the needs, capabilities, and limitations of the student, instead of just applying the Procrustean bed technique to the individual who doesn't fit. This approach to the education of ADHD students is implicit in Michael Gordon's *ADHD/Hyperactivity: A Consumer's Guide* (1991), previously mentioned as an excellent resource for both parents and teachers (this and other valuable resources are listed in the Further Readings section at the end of this paper).

In responding to teachers' concerns that making special adjustments for ADHD students wouldn't be fair to the other students, Gordon argues that "fairness isn't when everyone gets the same, but when everyone gets what he needs" (Gordon, 1991, p. 125). It's a persuasive argument.

Even whole language teachers may need to adjust their expectations in order to minimize or work around the limitations of the ADHD student and to provide the support needed for success.

A whole language approach to behavior problems

In a somewhat different vein, the story of how a sixth grade teacher named Steve dealt with a problem situation illustrates how teachers can lead ADHD and other children with behavior problems toward taking increasing responsibility for their actions. The anecdote is from Mark Collis and Joan Dalton's *Becoming Responsible Learners* (1990, Heinemann), an excellent resource.

In this situation Tanya and Troy, both known for temper outbursts, were each struggling to gain possession of the video's remote control. Steve told them to put the control down, and Troy did let go, but Tanya then lifted it above her head and hurled it against the wall, yelling defiantly. I will focus just on how Steve dealt with the problem of the broken video control:

> "I'm too angry to talk now," says Steve, "sit here until we all calm down enough to talk sensibly about this."

Five minutes later he returns to Tanya, reminding her that he will be contacting her parents about the incident because one of their class rules is that parents will be called when equipment is broken. Soon after initiating this discussion, Steve encourages Tanya to admit that she broke the remote control.

> "What can we do about the remote control?" Steve asks.
>
> "I could fix it," Tanya offers.
>
> "That's one idea, can you think of another?" prompts Steve.
>
> "I could pay for a new one, or take it home for Mum or Dad to fix," the ideas come more quickly.

"Have you any more ideas, Tanya?" Steve adds after a little pause.

"No," replies Tanya.

"So we have three ideas. You could fix it yourself. You could pay for a new one or you could ask your parents to help you fix or replace it," Steve summarizes. "Which of those ideas do you think you'll be able to do?"

"Well, I don't think I could fix it myself," Tanya says looking at the pieces scattered across the floor. "And I haven't got enough money to buy another one." Tanya pauses and looks down at her toes avoiding any eye contact with Steve.

"So which idea will work for you," prompts Steve.

"I could ask Mum and Dad to help me fix it or get another one I suppose," she answers reluctantly.

"So asking Mum and Dad to help you fix it or replace it will best solve our problem of the broken remote?" Steve queries.

"Yeah, Tanya replies a little more confidently.

"Well you talk to your Mum and Dad tonight and we'll get together tomorrow and see how you went. Remember I'll be talking to them this afternoon so they'll be expecting you to talk about what happened today pretty soon after you get home, right?" Steve adds smiling.

Tanya looks up and smiles faintly, "Right" she affirms. (Collis and Dalton, 1990, pp. 31-33).

In this incident, Steve demonstrates "shared ownership" and responsibility, encouraging Tanya herself to consider ways of making amends for the damage she has done. This is but one example from *Becoming Responsible Learners* of how teachers can help students take more responsibility for their learning and their behavior (Collis and Dalton, 1990).

Collis and Dalton present at the outset what they consider to be three major classroom leadership styles: teacher ownership and control, shared ownership and control,

and child ownership and control. They recommend and demonstrate shared responsibility, with gradual release of responsibility to the children, yet continued flexibility in responding to changing situations. See Figure 4 below for the application of this model to the control of behavior. Though such an approach will not necessarily be more effective than

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Classroom Leadership: behavior

Teacher Ownership	*Shared Ownership*	*Child Ownership*
* strong teacher control	* shared control	* strong child control
* "I decide what you will do"	* "let's decide together"	* "you decide what you will do"
*external control based on authority	*the teacher invites: --negotiation/input --responsibility --co-operation	*internal control based on self-direction/discipline
*teacher is responsible for behavior	*for behaving appropriately, children are learning both independence and interdependence	*"I'm responsible for how I behave"
*children are dependent on the teacher	*"I am responsible for my behavior and I care about the behavior of others"	*children are independent of teacher

Figure 4. Different styles of classroom leadership, with respect to behavior (Collis & Dalton, 1990, p. 33).

psychologists' cognitive behavior training in producing long-lasting effects, it has the decided advantage of being longer-term (the entire school year) and of occurring in a naturalistic setting. Furthermore, the teacher can always retreat to a greater degree of shared control for a time, later relinquish some control again, and repeat this pattern as necessary.

Some ADHD students may never be able to entirely avoid incidents in which strong emotion leads them to be impulsively hurtful or destructive, but they can learn more effective ways of dealing with the problems that their actions cause.

Additional educational services for the ADHD student

For both ADHD students and their classroom teachers to survive, they may need additional help from the school. In particular, the classroom teacher may need help assisting students with time-consuming organizational tasks (e.g. Pfiffner and Barkley 1990, pp. 521-523, 531-534; Gordon 1991, p. 111).

Public Law 94-142 guaranteeing special education services does not specifically mention an Attention Deficit alone as a condition qualifying children for those services. However, the Office of Civil Rights within the federal Department of Education has ruled that AD(H)D students are guaranteed special educational services by Section 504 of the Rehabilitation Act of 1973, if their condition substantially limits their ability to learn or to benefit from the regular educational program (Gordon, 1991, p. 117; Copeland and Love, 1990, p. 12). During 1991, additional guidelines were being developed by the Department of Education to guarantee students the right to special educational services solely on the basis of an Attention Deficit Disorder (with or without hyperactivity). Federal legislation is being drafted to support that guarantee.

Here are some ways the school might provide support to such students and their teachers:

1. Provide an appropriate chunk of time at the end of the school day for the student to meet one-on-one with the resource room teacher or someone else appropriate, in order to go over the tasks and assignments the student had difficulty focusing on during class and make sure that the student is all set to do assigned homework. This academic support person could also help the student plan for completing larger projects and monitor the student's progress, relieving the classroom teacher from this sort of task.

2. Provide at the end of the school day someone to make sure that the student has his or her "note home" form appropriately completed and signed by the teacher(s).

3. Provide an after-school supervised study hall for ADHD students and others needing such structure to complete their homework before leaving the school grounds.

4. Provide a classroom aide whenever there are three or more ADHD students in a class, with the aide's first priority being to work with these children.

5. Provide other pull-out or pull-in programs, as needed.

Many of these services could be performed by an aide rather than a fully-credentialed teacher. Indeed, significant help might even be provided by administrative staff, a guidance counselor, a parent volunteer, an older student, or even a peer "buddy." Cost would be minimal, perhaps even nil, but such additional help might make the difference between school failure and school success for many ADHD students. The importance of these kinds of assistance can scarcely be emphasized enough.

Placement in a special education class is likely to be needed for only a few ADHD children who are <u>severely</u> disruptive or aggressive, or who have other special needs that cannot be met by regular classroom instruction supplemented with additional assistance. The chance of school success for the majority of ADHD children can be greatly enhanced by a systems approach, with the student supported by the classroom teacher and both supported by the school as a whole.

A Systems Perspective and Whole Language

It is undeniably true that many of our nation's children have been over-diagnosed, over-labeled, and consequently under-appreciated and under-educated. Denny Taylor's *Learning Denied* (1990) offers a prime example of that, documenting, as it does, a school's absolute refusal to see a child's learning strengths and growth, while dwelling upon his alleged disabilities. Given stories like this--and many of us could share our own--it is no wonder that many educators are suspicious of labels like ADHD. Furthermore, recognition of ADHD as entitling a student to special educational services can, unfortunately, serve to provide for such students the same skills-oriented education that has often characterized special education pull-out programs. Special services do not guarantee that the ADHD student will receive appropriate understanding or educational support.

What holds significantly more promise, however, is a systems approach, both to defining ADHD and to dealing with it. On the one hand, a systems perspective encourages us to view ADHD as a socially dysfunctional cluster of behaviors that may be caused by the environment interacting with an individual who may have certain biological predispositions toward these behaviors. ADHD represents a set of less-than-optimal relationships between the individual and the environment. We can improve these relationships, then, not only by changing the individual, but by changing the environment: by modifying how we interact with the person as well as what we expect or demand of him or her. That is, we can take the both/and stance and approach that logically follows from systems theory.

Because whole language theory reflects a both/and stance toward responsibility for learning and a conviction that teachers need to work with children to help them control their behavior appropriately, whole language teachers may be particularly effective with ADHD students. They will be all the more effective, I think, if they consider that ADHD may involve a neurological factor--that is, if they at least entertain the possibility that their ADHD students may have biologically-based difficulties and limitations that make it

important for teachers to offer appropriate understanding and some of the aforementioned kinds of support for learning.

ADHD and Learning Disabilities: A Systems Theory and Transactional Paradigm

For the theoretically minded, I want to add some comments on ADHD and learning disabilities, discussing both in the context of theories and paradigms.

As noted previously, ADHD differs significantly from learning disabilities in being diagnosed primarily on the basis of difficulty in meeting the demands and expections of daily life, rather than on the basis of standardized tests. Additionally, ADHD behaviors often manifest themselves across a spectrum of social situations, not just in settings where students are expected to manage or master certain kinds of skills tasks. Furthermore, there is more evidence--at least indirect--for the operation of a neurological factor in ADHD: unlike LD behaviors alone, ADHD behaviors are alleviated by medications, for the majority of individuals. Because of such differences, I would argue for considering ADHD as a condition--or rather, a set of interrelationships--that affects education, rather than as a learning disability.

On the other hand, a systems perspective or theory of learning disabilities is at least as appropriate as a systems theory of ADHD. It may be even more appropriate to consider learning disabilities within the context of environmental influences, if indeed there is less evidence for a neurological factor in so-called learning disabilities.

In his critical examination of learning disabilities, Gerald Coles objects--rightly, I think--to what he calls a "reductionist and determinist neurological thesis" accounting for learning disabilities (1987, p. 134). But he seems to embrace an equally reductionist interactivity theory, according to which all learning differences are environmentally caused

--even those involving neurological factors. Perhaps: but I think the causes may sometimes be more complex than that (as does Heshusius, 1989). Or in other words, I resist this opposite kind of reductionism.

If I am more convinced than Coles of the existence of a neurological factor at least in ADHD (having considered a wider range of evidence than what he cites), I am nevertheless equally convinced of the need for reconceptualizing learning failure in terms that place primary responsibility on the schools and a society that tacitly expects and accepts a significant degree of educational failure. As Heshusius (1989) indicates, this concept of disabilities as a social construct is gaining increased attention within the field of special education (e.g. Carrier, 1983; Sleeter, 1986; see also Wixon and Lipson, 1986; Goodman, 1982, and other articles within that same journal issue; see also the May 1991 issue of *Topics in Language Disorders*). And with this understanding comes increasing recognition that we need to examine how the environment contributes to the genesis, diagnosis, maintanance, and treatment of alleged learning disabilities and conditions like ADHD.

In short, I join theorists like Poplin and Heshusius in rejecting a mechanistic paradigm of education and the models that reflect it: the medical model, the psychological process model, the behaviorist model, and the cognitive/learning strategies model (Poplin, 1988a). And I likewise join them in espousing the transactional paradigm that underlies whole language instruction (Poplin's "holistic/constructivist" paradigm, 1988b; Heshusius, 1989). Whole language rejects the "blame the victim" stance typically associated with the admission of a neurological factor in learning differences (e.g. Stires, 1991; Dudley-Marling, 1990; Rhodes and Dudley-Marling, 1988). Whole language educators decry such failure-oriented assumptions and practices of our schools and attempt to foster the success of all students, viewing them as capable and developing rather than incapable and deficient (Weaver, 1990). Thus in educating ADHD and all students, whole language reflects a systems theory of education within a transactional paradigm.

Postscript

I do not know the fate of Donald, the 6-year-old who preferred teaching himself Chinese characters to doing the boring schoolwork assigned by his teacher. But I can give you an update on my son John.

In July of the summer he was hospitalized and diagnosed as having an attention deficit disorder, I broached with his psychiatrist the subject of John's returning to school in the fall. "Why, Connie," the psychiatrist said, "there isn't any place for him in our schools." No place for my son? I was shocked. "He obviously can't succeed in regular classes," the psychiatrist continued, "and he doesn't really belong in a special education class." To make a long story shorter, I discovered that our city had recently developed an alternative high school for students who had dropped out for a semester or more. There was less pressure, classes were smaller, and most crucially, John had time in most of his classes to complete his homework. He graduated with mostly A's during this last year, and honors certificates in both algebra and English (creative writing). After a brief fling with a nearby junior college--where, predictably, he could not sustain his organizational skills and attention to homework well enough to succeed--he has recently graduated with high honors from a two-year electronics engineering program at a technical school. As of this writing, John is at the top of his class in a third-year program that will culminate in a Bachelor's of Applied Science. He has found a professional area of interest, and an educational program with characteristics that meet some of his most crucial needs. Perhaps most critical is the fact that he has previously had homework in only one subject a night.

John's recent educational success offers testimony to ne effectiveness of a systems concept of ADHD and a systems approach to meeting the educational needs of ADHD students.

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Further Readings

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Readings and resources on Attention Deficit Disorders

Mostly books

Barkley, R. A. (1990). *Attention Deficit Hyperactivity Disorder: A handbook for diagnosis and treatment.* New York: Guilford Press. This 747-page book offers a thorough, research-based discussion of ADHD, its assessment, and treatment.

CH.A.D.D. Education Committee. No date. "Attention Deficit Disorders: A guide for teachers." Available from CH.A.D.D. (Children with Attention Deficit Disorders); see address below.

Copeland, E. D. and Love, V. L. (1990). *Attention without tension: A teacher's handbook on Attention Deficit Disorders (ADHA and ADD).* Atlanta, GA: 3 C's of Childhood, Inc. Includes several potentially useful lists and forms.

Gordon, M. (1991). *ADHD/Hyperactivity: A consumer's guide for parents and teachers.* DeWitt, NY: GSI Publications. Humorous, yet professional. This is "must" reading.

Wender, P. (1987). *The hyperactive child, adolescent, and adult.* New York: Oxford University Press. Readable and insightful.

All of the books above, and many other books and tapes, are available from the A.D.D. Warehouse, 300 Northwest 70th Ave., Suite 102, Plantation, FL. Call 1-800-233-9273 to order or to obtain a catalogue.

Parent Support Groups

CHADD National Headquarters
499 Northwest 70th Ave.
Suite 308
Plantation, FL 33317
(305) 587-3700

CHADD is the largest national parent support group, with many local groups. CHADD publishes a monthly newsletter and a bi-annual journal.

ADDA
4300 West Park Blvd.
Plano, Texas 75093

Another national group is the Attention Deficit Disorders Association, again with local support groups.

Legal Right to Education

For current information on the legal rights of AD(H)D students to receive special educational services, contact your regional office of the U. S. Department of Education, Office for Civil Rights. Addresses and phone numbers are provided in the Copeland and Love book (above).

In most if not all states, there are groups similar to C.A.U.S.E in Michigan. The acronym stands for Citizens Alliance to Uphold Special Education. This is a powerful advocacy group that can help parents obtain the special services to which their children are entitled. For information on C.A.U.S.E. or on advocacy groups in other states, write 313 South Washington Square, Suite 040, Lansing, MI 48933, or call 1-800-221-9105.

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3. *Alternatives in Understanding and Educating Attention-Deficit Students: A Systems-Based Whole Language Perspective*; Constance Weaver
4. *A Goodly Fellowship of Writers and Readers*; Richard Lloyd-Jones